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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/587,250

07/26/2006

Takashi Nishihara

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02/17/2009

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EXAMINER

MULVANEY, ELIZABETH EVANS

ART UNIT

PAPER NUMBER

1794

MAIL DATE

DELIVERY MODE

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/587,250	<b>Applicant(s)</b> NISHIHARA ET AL.	
	<b>Examiner</b> Elizabeth E. Mulvaney	<b>Art Unit</b> 1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 37-72 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 37-72 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☒ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. ____.                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>7/26/06</u> .   | 6) <input type="checkbox"/> Other: ____.                          |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 37, 39, 40, 50-52, 58, 60 and 61 are rejected under 35 U.S.C. 102(b) as being anticipated by US 6,071,587.

The reference discloses a recording medium comprising a phase-change recording material (Ge-Sb-Te) having a dielectric layer thereon where the dielectric layer comprises a rare earth element oxide and silicon dioxide. See col. 7-8. The layers are formed by sputtering. See Examples.

Claims 37-40, 50-55, 58-61, and 71-72 are rejected under 35 U.S.C. 102(b) as being anticipated by US 6,416,837.

The reference discloses a double-layered recording medium (two phase-change recording layers) having dielectric layers on either side thereof. The dielectric layer is a mixture of oxides of Y, Ce, Zr, Si, Zn, Ti, Bi, Sn, etc. See col. 8. The medium also has interface layers between the dielectric layers and recording layers which are formed of oxides of Zr, Si, Cr, etc. See col. 10.

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Claims 37-40, 50-57, 58-61, 71-71 are rejected under 35 U.S.C. 102(b) as being anticipated by US 2003/0190477.

The reference discloses a double-layered recording medium (two phase-change recording layers) having dielectric layers on either side thereof. The dielectric layer is a mixture of oxides of Y, Dy, Yb, Zn, Zr, Hf, Si, etc. See [0030]. The medium also has interface layers between the dielectric layers and recording layers which are formed of HfO-SiO-CrO. See [0150].

Claims 37-40, 50-57, 58-61, 71-71 are rejected under 35 U.S.C. 102(e) as being anticipated by US 6,881,466.

The reference discloses a double-layered recording medium (two phase-change recording layers) having dielectric layers on either side thereof. The dielectric layer is a mixture of oxides of Y, Dy, Yb, Zn, Zr, Hf, Si, etc. See col. 5. The medium also has interface layers between the dielectric layers and recording layers which are formed of HfO-SiO-CrO. See col. 25.

### ***Claim Rejections - 35 USC § 103***

Claims 41-49 and 62-70 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 6,416,837.

The reference discloses the medium as described in the above 102 rejection. It is recognized that the reference does not specify the compositional formulas for the dielectric material as claimed. However, as the same elements are disclosed, it would have been obvious to one of ordinary skill in the art to vary the amounts of each element in the dielectric layer in the interest of obtaining the optimal protective properties.

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Claims 41-43 and 62-64 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 2003/0190447 or US 6,881,466.

The references disclose the medium as described in the above 102 rejections. It is recognized that the references do not specify the compositional formulas for the dielectric material as claimed. However, as the same elements are disclosed, it would have been obvious to one of ordinary skill in the art to vary the amounts of each element in the dielectric layer in the interest of obtaining the optimal protective properties.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elizabeth E. Mulvaney whose telephone number is 571-272-1527. The examiner can normally be reached on Monday-Friday 9am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Milton Cano can be reached on 571-272-1398. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Elizabeth E. Mulvaney/

Primary Examiner, Art Unit 1794

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